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09/894,568	06/27/2001	Darren Kim	6487-60420 (25916-228)	5901	
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SHEPPARD, MULLIN, RICHTER & HAMPTON LLP 333 SOUTH HOPE STREET			NELSON, ALECIA DIANE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
Office Action Cummon.	09/894,568	KIM				
Office Action Summary	Examiner	Art Unit				
	Alecia D. Nelson	2675				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be ting within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1) Responsive to communication(s) filed on 12 Ap	oril 2004.					
2a) ☐ This action is FINAL . 2b) ☑ This	action is non-final.					
3) Since this application is in condition for allowar	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4)⊠ Claim(s) <u>1-8,10-17,20-25,28-62 and 65</u> is/are p	pending in the application.					
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-8,10-17,20-25,28-62,65</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and/or	8) Claim(s) are subject to restriction and/or election requirement.					
Application Papers						
9) The specification is objected to by the Examiner.						
10)☐ The drawing(s) filed on is/are: a)☐ accepted or b)☐ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119						
 12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the priority application from the International Bureau * See the attached detailed Office action for a list of the priority application from the International Bureau 	s have been received. s have been received in Applicati ity documents have been receive ı (PCT Rule 17.2(a)).	on No ed in this National Stage				
Attachment(s)						
1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)						
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10. 	Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:	ate Patent Application (PTO-152)				

U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04)

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DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 09/08/03 has been considered and placed in the file, however as indicated on PTO-1449, reference A1 (Oka, US 5,049,863) has not been considered because it was submitted on PTO-1449 filed 01/09/02. Reference B3 (EP 07253849) has not been considered because there was not provided a copy of the reference.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (e) the invention was described in(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).
- 3. Claims 53 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Yeom et al. (U.S. Patent No. 5,943,625).

Yeom et al. teaches a wireless input device for transmitting data to a computer comprising a housing (200), a pointing device for generating positional information (25), a non-pointing device mounted on the housing for generating input information for the computer (see column 5, lines 1-7), a transmitter (261, 263) for transmitting data from

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the pointing and non-pointing devices, and a selector for choosing between operating the input device as the pointing device or non-pointing device (see column 4, lines 43-59).

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 6. Claims 1-8 and 34-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blankenship et al. (U.S. Patent No. 5,726,684) in view of Fujioka (U.S. Patent No. 6,674,424).

With reference to **claims 1-3 and 34-36**, Blankenship et al. teaches a computer base section (40) containing a keyboard (50), a display section comprising a display

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frame with a bezel holding a liquid crystal display (20), display section being coupled to the computer base by hinges (30), and an infrared sensor attached to said notebook computer (see col. 3, lines 5-41).

Blankenship et al. fails to specifically teach that the infrared sensor is disposed on the display frame of the display section so that a wide-angle infrared detection response is achieved.

Fujioka teaches a coordinate data input system (1S) including a coordinate data input apparatus (1), a first electronic camera (10), a second electronic camera (11) and a display panel (12) (see column 4, lines 3-8). The electronic first and second cameras (10, 11) includes a wide-angle lens (50), which covers around 90 degrees or wider angle. The cameras are disposed at a upper corners of the display panel (12) (see column 4, lines 30-43).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of the wide angle sensors as taught by Fujioka, in a system similar to that which is taught by Blankenship et al. in order to thereby provide a notebook computer capable of receiving signals from a sensor attached to the frame of the display so that a wide angle detection is achieved and the coordinate input member can be detected over the whole area of the display panel (see Fujioka, column 6, lines 34-38).

With reference to claims 4-8 and 37-41, Blankenship et al. teaches a computer base section (40) containing a keyboard (50), a display section comprising a display

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frame with a bezel holding a liquid crystal display (20), display section being coupled to the computer base by hinges (30), and an infrared sensor attached to said notebook computer (see col. 3, lines 5-41).

While teaching the usage of an IR sensor, Blankenship et al fails to teach the usage of two IR sensors located on the display frame which are used for receiving transmitted data, nor is there any teachings a means for combining the signals received.

Fujioka teaches a coordinate data input system (1S) including a coordinate data input apparatus (1), a first electronic camera (10), a second electronic camera (11) and a display panel (12) (see column 4, lines 3-8). The electronic first and second cameras (10, 11) includes a wide-angle lens (50), which covers around 90 degrees or wider angle. The cameras are disposed at a upper corners of the display panel (12) (see column 4, lines 30-43). Further it can be seen in Figures 3 and 4 mans for combining the signals obtained by the camera in order to determine the location of the input apparatus (see column 6, lines 39-67).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of the wide angle sensors as taught by Fujioka, in a system similar to that which is taught by Blankenship et al. in order to thereby provide a notebook computer capable of receiving signals from a sensor attached to the frame of the display so that a wide angle detection is achieved and the coordinate input member can be detected over the whole area of the display panel (see Fujioka, column 6, lines 34-38).

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7. Claims 10-15 and 42-46, are rejected under 35 U.S. C. 103(a) as being unpatentable over Junod et al. (U.S. Patent No. 5,854,621) in view of Donovan (U.S. Patent No. 5,252,968).

With reference to **claim 10**, Junod et al. teaches an input device for controlling positional information for a computer comprising a housing (100,170), a ball (200) capable of being rotated to determine the cursor position, and that the ball coupled to an optical encoder which provides output signals in response to rotation of the ball (see column 5, lines 1-10). It is further taught the usage of control circuitry that conserves power by operating the optical encoder in a mode when the ball is at rest longer than a pre-selected time interval and the control circuit utilizes the signals of the encoder to determine when to resume a continuous position sensing encoder mode (see column 6, lines 37-65).

While it is taught the usage of an optical encode which provides output signals in response to rotation of the ball, Junod et al. fails to specifically teach that the control circuit receives as inputs, the output signals of the optical encoder, nor that the control circuit is also capable of controlling the power to the photo-interruptors of the optical encoder.

Donovan teaches that the control circuit (36) receives as inputs the output signals of the optical encoder (see column 5, lines 28-59). It is also taught that the control circuit is capable of controlling the power to the photo-interruptors of the optical encoder (see column 3, lines 24-46).

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Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for a control circuit capable of receiving outputs of the optical encoder and capable of controlling the power to the photo-interrupters, as taught by Donovan to be used in a system similar to that which is taught by Junod et al. to have the capability to control the power of the photo interruptors to thereby conserve the usage of power when operating the input device (see Donovan, column 3, lines 31-34).

With further reference to **claims 11 and 42,** Junod et al. fails to specifically teach the usage of an infrared transmitter coupled to the housing for transmitting signals.

However, Junod et al. does teach the usage of radio frequency (RF) transmission. The usage of RF transmission and IR transmissions are both well known in the art for a means of wireless communication.

With reference to **claims 12 and 43**, Junod et al. teaches that the mouse (10) can operate in tree power modes (normal, standby, and sleep) to conserve energy (see column 6, lines 37-40).

With reference to **claims 13 and 44**, Junod et al. teaches a sleep mode, which is when no motion is being detected, therefore no data pulses can be transmitted (see column 6, lines 37-65).

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With reference to **claims 14 and 45**, Junod et al. teaches the usage of user settable identification codes (see column 5, lines 34-54).

With reference to **claims 15 and 46**, neither Junod et al. nor Donovan teach the usage of a laser pointer contained within the input device is well known in the art.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to use IR transmission as opposed to RIF transmission in a wireless input device to thereby transmit information for cursor control.

8. Claims 16, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blankenship et al. (U.S. Patent No. 5,726,684) in view of Yasuo and Herng-Chuen.

With reference to **claims 16, 17, and 20**, Blankenship et al. teaches an compact infrared input device for a notebook computer including a frame housing (70), and a mouse ball (80) coupled to said top or bottom surface of the housing (70). Blankenship et al. also teaches the usage of optical encoders (see column 1, lines 17-38) as well as infrared sensors for wireless transmission mean (see column 3, lines 30-41). Blankenship et al. fails to specifically teach the usage of a first and second pointing device located on the housing, however does teach that ball (80) could be use in a mouse or trackball, and also fails to specifically teach that housing (70) is of size to be operated in the users hand.

Yasuo teaches a coordinate inputting device with the function of a mouse or track ball and the function of a finger pad (see abstract).

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Herng-Chuen also fails to specifically teach that the housing is dimensioned such that the input device may be held along its bottom portion in the palm of a hand with the entire top portion accessible by a thumb. However it is taught that the input device is small enough for the user to be able to use different hand arrangements to operate the pointing devices mounting on the input device (see column 4).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have a compact input device with two pointing devices located thereon capable of transmitting information by means of wireless transmission in which the user can operate in his/her hand in a portable computer to thereby provide the user with easier manipulation of the input device.

9. Claims 21-23 are rejected under 35 U.S. C. 103(a) as being unpatentable over Blankenship et al. in view of Yasuo and Herng-Chuen as applied to claim 16 above, and further in view of Wang.

With reference to **claims 21-23** all that is needed is taught above with reference to claims 16. However it is not taught the usage of a ergo track, eraser-head, or laser pointer type input device.

Wang teaches the usage of different types of input devices to be used as a second input device of the control device (see FIGS 3, 6, 8, 10, and 15).

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Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to for the control device to have the ability to function using different types of input devices. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

10. Claims 47, 48, 61, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herng-Chuen (U.S. Patent No. 5,914,703) in view of Yasuo.

With reference to **claims 47, 48, 61, and 65**, Herng-Chuen teaches a first input device (12) having a top and a bottom, a second pointing device (30) mounted on the top of the housing and a transmitter to transmit information from the pointing device (see column 4, lines 46-58). It is also taught that the portable computer has a computer base (20) with a second input device (22) mounted on the computer base, a display section (14) connected to the computer base. Further it is taught that the computer base (20) has a recess for receiving the first input device, wherein the recess is mounted in front of said second input device (see figure 1).

Herng-Chuen fails to specifically teach the usage of a pointing device mounted on the bottom of the housing. However, it is taught several different arrangements of the pointing devices mounted on the housing, furthermore placement of a pointing device mounted on the bottom of the housing is well known in the art. Herng-Chuen also fails to specifically teach a receiver for receiving information by wireless transmission. However it is taught that transmission is required in order to control the cursor on the display, furthermore wireless transmission in such a device is well known in the art.

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Herng-Chuen also fails to specifically teach that the housing is dimensioned such that the input device may be held along its bottom portion in the palm of a hand with the entire top portion accessible by a thumb. However it is taught that the input device is small enough for the user to be able to use different hand arrangements to operate the pointing devices mounting on the input device (see column 4).

Yasuo teaches a coordinate inputting device with the function of a mouse or track ball and the function of a finger pad (see abstract).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for a pointing device to be mounted on the bottom of the housing as taught by Yasuo, in a system with multiple pointing devices as taught by Herng-Chuen to thereby give the user the option to operating the input device as a mouse. It would also be obvious to use wireless transmission in such a device to thereby give the user more freedom to manipulate the device.

11. Claims 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herng-Chuen in view of Yasuo as applied to claim 47 above, and further in view of Wang (U.S. Patent No. 5,771,038).

With reference to **claims 49-52** all that is needed is taught above with reference to **claim 47**. However it is not taught the usage of a ergo track, eraser-head, or laser pointer type input device.

Wang teaches the usage of different types of input devices to be used as a second input device of the control device (see FIGS 3, 6, 8, 10, and 15).

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Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to for the control device to have the ability to function using different types of input devices. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

12. **Claim 62** is rejected under 35 U.S.C. 103(a) as being unpatentable over Herng-Chuen in view of Yasuo as applied to **claim 61** above, and further in view of Kim et al. (U. S. Patent No. 5,952,996).

Herng-Chuen and Yasuo teach all that is needed as applied to claim 61 explained above, however fails to specifically teach the receiver is mounted on the display section.

Kim et al. teaches the usage of a plurality of IR sensors located on a display frame for use with an infrared pointing type wireless controller (see col. 4, lines 1-10).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to include receivers on the display section to thereby give the user a larger area to operate the input device.

13. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeom et al. in view of Blankenship et al..

Yeom et al. teaches a wireless input device for transmitting data to a computer comprising a housing (200), a mouse button (28) coupled to the top surface of the housing, a pointing device for generating positional information (25), a non-pointing device mounted on the housing for generating input information for the computer (see

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column 5, lines 1-7), a infrared transmitter (see figure 1), and a selector for choosing between operating the input device as the pointing device or non-pointing device (see column 4, lines 43-59).

Yeom et al. fails to specifically teach the usage of an optical encoder coupled to the mouse ball. However, the usage of an optical encoder, which is coupled to a mouse ball, is well known in the art.

Blankenship et al. also teaches the usage of optical encoders in reference to conventional methods (see column 1, lines 17-38),

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for an optical encoding means to be included into the device of Yeom et al. as taught by Blankenship to provide movement tracks of the mousse movements (see Blankenship, column 1, lines 31-35).

14. *Claims 28 and 55* are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeom et al. in view of Blankenship et al. as applied to claim 24 above, or over Yoem et al. as applied to claim 53 above, and further in view of Klein et al. (U.S. Patent No. 6,163,326).

Yeom et al. and Blankenship et al. teaches all that is needed as explained above with reference to **claim 24**, however fail to teach the usage of a joystick data input device.

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Klein et al. teaches a detachable device for a laptop computer in which the second input device may include several other pointing mechanisms such as a joystick (59) (see column 7, lines 21-36).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the data input device to be of joystick type. This would provide a plurality of different embodiments for the user to choose from depending on which is most comfortable for the user.

15. Claims 29-33 and 56-60 are rejected under 35 U. S. C. 103(a) as being unpatentable over Oka (U.S. Patent No. 5,049,863) in view of Long et al. (U.S. Patent No. 5,416,909).

With reference to claims 29 and 56, Oka teaches an infrared input unit (16) having a first pointing device (17), which transmits positional control information as infrared signals (see column 2, lines 48-63), a computer base section (11) with a second pointing device (11 a, 11 b) mounted thereon, and a display section comprising a frame with a bezel holding a liquid crystal display (33). Oka also teaches that the infrared input unit (16) is dimensioned to fit into a computer base section of the notebook computer (see figure 1). With reference to claims 30 and 57, Oka teaches the usage of a third pointing device (20) connected to an external port (13,19) (see column 2, lines 33-47).

Oka fails to specifically teach the usage of a signal arbitration circuit to determine how inputs from the first and second pointing device are used to control pointer position,

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however does teach the usage of circuitry which receives signals from the mouse buttons and movement of the mouse (see column 3, lines 34-55).

Long et al. teaches an input-output controller which uses a single transceiver to service multiple I/0 ports in a small computer system in which the arbitration logic (12) controls the accessing of the transceiver (14) by the I/0 devices (see column 2, lines 56-68). With further reference to claims 31-33 and 57-60, Long et al. further teaches that arbitration logic controls the access of the ports to the transceiver all other I/0 devices are locked out until the transfer to or from the current I/0 device is complete. Once the current transfer is complete, the arbitration logic then goes back to arbitrating, looking for the next I/O device that needs service.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention for the input device to contain arbitration circuitry as taught by Long to thereby control the input similar to that which is taught by Oka, which is received for controlling the pointer position in the display (see Long et al, column 2, lines 65-68).

Response to Arguments

16. Applicant's arguments filed 4/12/04 have been fully considered but they are not persuasive.

The applicant submitted an affidavit stating that the present invention was reduced to practice prior to the publication date of Yasuo. However, this reference was submitted by the applicant in the Information Disclosure Statement submitted 01/09/02,

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thereby an admission as prior art by the applicant. According to MPEP 2129, when applicant states information as being prior art, it is taken as being available as prior art against the claims. Therefore the Yasuo reference qualifies as prior art.

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For clarification purposes the obviousness-type double patenting rejection still applies to the instant application. The applicant acknowledge the double patenting rejection by stating that a terminal disclaimer will be submitted upon receiving an indication of the allowable subject matter (see office action mailed 12/16/02).

With respect to the rejection of **claims 1-8 and 34-41**, a new rejection has been applied; therefore the arguments presented by the applicant are moot.

. With respects to the rejection of claims 10-15 and 42-46, both references teach the usage of optical encoders for determining position. Donovan is added to teach the usage of the control circuit receiving outputs from the encoders. Thereby allowing by replacing the control circuit of Junod et al. with the control circuit of Donovan the system of Junod et al. will be able to receive the position information from the encoders as explained in the teachings of Donovan in order to reduce power consumption. With further reference to claims 12 and 43, a new rejection has been applied; therefore the arguments presented by the applicant are moot.

With respect to claims 16, 17, 20-23, 47-52, 61, 62, and 65 the rejection will be maintained for reasons explained above with respect to the Yasuo reference being admitted prior art.

With reference to **claims 24**, **25**, **and 28**, the applicant argues that it would have not been obvious to modify Yoem et al. such that both the mouse and telephone

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functionality would rely on infrared transmission. However, the examiner is not clear as how that argument pertains to the claimed subject matter. The claims recite that in mouse mode the control circuit act to transmit infrared data, which is what Yoem et al teaches (see column 5, lines 33-36). Also, he usage of the word "possible" in the examiners arguments does not render the combination or motivation of the references speculation or hindsight reconstruction of the claimed invention. The reference clear teaches that the system has the capability to transmit and receive mouse control signals at a radio frequency, which thereby allows for the capability of the keypad information from the non-pointing device to transmit signals to the computer system. Furthermore, Blankenship also clear teaches the usage of wired and wireless transmission, including IR and RF (see column 1, lines 17-30).

With reference to claims **29-33 and 56-60**, the examiner retains the position of a pointing device to be the cursor keys of a keyboard, as well as "TAB" key, function keys, or the arrow keys on the number pad. According the applicants definition the pointing device, the keyboard, allows a user to input spatial data to the computer.

With reference to **claims 53 -55**, the applicant argues that the rf transmission from the telephone is not computer data but merely audio information being sent to a apparatus installed into the computer housing, however the claim recites that the non-pointing device mounted on the house for generating input information for the computer, which the teachings of Yeom et al. disclose as stated by the applicant. The claim doesn't specify what type of information is being sent to the computer just that it is input

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information for the computer. Therefore the sound information qualifies as information for the computer.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703) 305-0143. The examiner can normally be reached on Monday-Friday 9:30-6:00. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

adn/ADN June 28, 2004

CHANH NGUYEN
PRIMARY EXAMINER

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